

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 September 2005 (22.09.2005)

PCT

(10) International Publication Number
WO 2005/088608 A1

(51) International Patent Classification⁷: **G10L 19/00**,
G11B 20/00

(21) International Application Number:
PCT/IB2005/050806

(22) International Filing Date: 4 March 2005 (04.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
04101019.0 12 March 2004 (12.03.2004) EP

(71) Applicant (for all designated States except US): **KONIN-
KLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BRUEKERS,**

Alphons, A., M., L. [NL/NL]; c/o Prof. Holstlaan 6,
NL-5656 AA Eindhoven (NL). **WILLEMS, Franciscus,
M., J.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA
Eindhoven (NL).

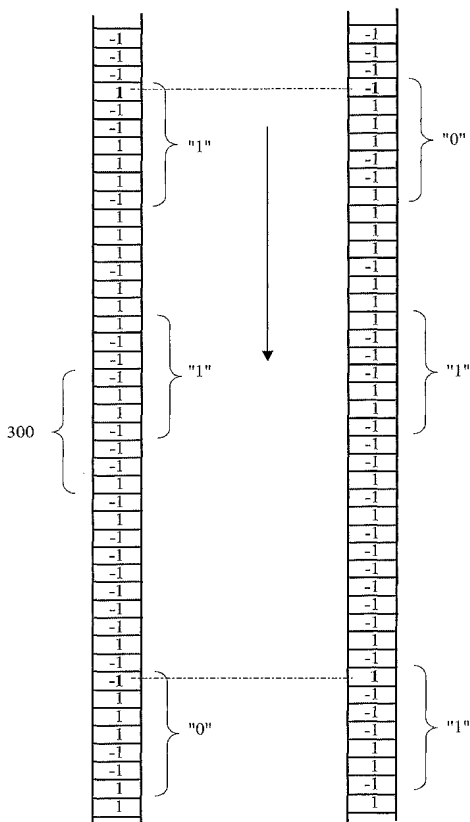
(74) Agents: **SCHMITZ, Herman, J., R.** et al.; Prof. Holst-
laan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: METHOD OF INSERTING DIGITAL WATERMARKS IN ONE-BIT AUDIO FILES



(57) Abstract: There is described a method of processing a serial data signal to generate a corresponding transformed signal, for example encoded signal. The method includes steps of: (a) providing one or more signature sequences; (b) analysing the serial data signal to determine therein one or more signal sequences for which holds that combining such one or more signal sequences with said one or more signature sequences does not result in generation of illegal states; and (c) combining one or more of the determined signal sequences of the serial data signal with said one or more signature sequences so as to transform the serial data signal into the transformed signal. Moreover, there is also described apparatus (100) operable to execute the method and/or a corresponding inverse method.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.